

AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 2, 42, and 44 as follows. All pending claims have been reproduced below.

1. (Currently Amended) An image pickup apparatus having a camera body and a lens unit, comprising:

a ring member for driving the lens unit;

detection means for detecting a change amount of a rotation of said ring member;

control means, arranged in the lens unit, for performing motion/stop control of at least the lens unit along an optical axis in accordance with a detection result by said detection means; and

motion direction setting means, arranged in the camera body, for a user to set a desired motion direction of the lens unit relative to the rotation direction of said ring member,

wherein said motion direction setting means arranged in said camera body comprises (i) character display means, ~~(ii) menu setting means,~~ (iii) display means for displaying an image picked up by said image pickup apparatus, ~~(iv) a menu function control unit for controlling said character display means in accordance with the operation state of said menu setting means operated by the user, and for displaying a predetermined menu on a display screen of the display means,~~ and (v) a setting an operation switch that controls said menu function unit in accordance with an operation state thereof to display a

predetermined menu on a display screen of said display means, operates on the predetermined menu displayed on said display means to select a desired setting item from among a plurality of items of the predetermined menu displayed on said display means by said menu function ~~control~~ unit and sets a condition regarding the motion direction of the lens unit.

2. (Currently Amended) An image pickup apparatus according to claim 1, wherein the lens unit includes a magnification lens, and said motion direction setting means comprises:

~~an operation switch capable of being operated by a user, and~~
change means for changing the motion direction of the lens unit relative to the rotation direction of said ring member in accordance with the operation state of said operation switch, wherein said operation switch is capable of being operated by a user.

3. (Previously Presented) An image pickup apparatus according to claim 2, wherein the lens unit is made removable relative to the camera body of the image pickup apparatus.

4. (Previously Presented) An image pickup apparatus according to claim 3, wherein said ring member is disposed concentrically about an optical axis of the lens unit.

5. (Previously Presented) An image pickup apparatus according to claim 1, wherein the lens unit includes a magnification lens, and said motion direction setting means comprises:

memory means for storing motion direction information of the lens unit relative to the rotation of said ring member, the motion direction being given by a user; and

change means for changing the motion direction of the lens unit in accordance with the motion direction information stored in said memory means.

6. (Previously Presented) An image pickup apparatus according to claim 5, wherein the lens unit is made removable relative to the camera body of the image pickup apparatus.

7. (Previously Presented) An image pickup apparatus according to claim 6, wherein said ring member is disposed concentrically about an optical axis of the lens unit.

Claim 8 (Cancelled).

9. (Previously Presented) An image pickup apparatus according to claim 1, wherein the lens unit is made removable relative to the camera body of the image pickup apparatus.

10. (Previously Presented) An image pickup apparatus according to claim 9, wherein said ring member is disposed concentrically about an optical axis of the lens unit.

Claims 11 and 12 (Cancelled).

13. (Previously Presented) An image pickup apparatus according to claim 1, wherein said ring member is disposed concentrically about an optical axis of the lens unit.

14. (Previously Presented) An image pickup apparatus having a camera part and a lens part detachably mounted on the camera part, with a magnification lens and a ring member that drives the lens part, comprising:

communication means for performing communication between said camera part and said lens part;

detection means which detects a change amount of a rotation of the ring member for driving the lens part;

camera control means, provided in the camera part, for selecting and determining a response characteristic between an output of said detection means and a motion of the magnification lens, and for transmitting the selected response characteristic to said lens part;

lens control means, provided in said lens part, for receiving information concerning the selected response characteristic transmitted from said camera control means through said communication means, and for controlling the motion of said magnification lens in response to the operation of said ring member in accordance with the selected response characteristic; and

storing means, provided in said camera part, for storing information of the response characteristic, said storing means being arranged so that said camera part holds the selected response characteristic throughout attaching/removing of said lens part and transmits the stored information of the response characteristic to said lens part attached to said camera part throughout attaching/removing thereof.

15. (Previously Presented) An image pickup apparatus according to claim 14, wherein the plurality of characteristics of said camera control means includes a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to be constant and a second characteristic for controlling a motion speed of the magnification lens to be variable in accordance with a rotation speed of the ring member.

16. (Previously Presented) An image pickup apparatus according to claim 14, wherein the plurality of characteristics of said camera control means includes a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to become a first predetermined amount and a second

characteristic for controlling a motion amount of the magnification lens per unit rotation of the ring member to become a second predetermined amount different from the first predetermined amount.

17. (Previously Presented) An image pickup apparatus having a camera part on which a lens part is detachably mountable, the lens part having a ring member that drives the lens part, comprising:

communication means for performing communication between said camera part and the lens part;

detection means which detects a change amount of a rotation of the ring member for driving the lens part;

camera control means, provided in the camera part, for selecting and determining a response characteristic between an output of said detection means and a motion of the magnification lens, and for transmitting the selected response characteristic to the lens part through said communication means so as to set the selected response characteristic to control means which controls the motion of the magnification lens in response to the operation of the ring member; and

storing means, provided in said camera part, for storing information of the response characteristic, said storing means being arranged so that said camera part holds the selected response characteristic throughout attaching/removing of said lens part and transmits the stored information of the response characteristic to said lens part attached to said camera part throughout attaching/removing thereof.

18. (Previously Presented) An image pickup apparatus according to claim 17, wherein the plurality of characteristics of said camera control means includes a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to be constant and a second characteristic for controlling a motion speed of the magnification lens to be variable in accordance with a rotation speed of the ring member.

19. (Previously Presented) An image pickup apparatus according to claim 18, wherein the characteristic of said camera control means is changed in accordance with the state of an operation switch capable of being operated upon by a user.

20. (Previously Presented) An image pickup apparatus according to claim 18, wherein the characteristic of said camera control means is changed in accordance with information of the characteristic of said camera control means set by a user.

21. (Previously Presented) An image pickup apparatus according to claim 18, wherein the characteristic of said camera control means is changed in accordance with a photographing state.

22. (Previously Presented) An image pickup apparatus according to claim 17, wherein the plurality of characteristics of said camera control means includes a first characteristic for controlling a motion amount of the magnification lens per unit

rotation of at least the ring member to become a first predetermined amount and a second characteristic for controlling a motion amount of the magnification lens per unit rotation of the ring member to become a second predetermined amount different from the first predetermined amount.

23. (Previously Presented) An image pickup apparatus according to claim 22, wherein the characteristic of said camera control means is changed in accordance with the state of an operation switch capable of being operated upon by a user.

24. (Previously Presented) An image pickup apparatus according to claim 22, wherein the characteristic of said camera control means is changed in accordance with information of the characteristic of said camera control means set by a user.

25. (Previously Presented) An image pickup apparatus according to claim 22, wherein the characteristic of said camera control means is changed in accordance with a photographing state.

26. (Previously Presented) An image pickup apparatus having an image pickup apparatus main body and a lens part, detachably mounted on said main body, which has a magnification lens and a ring member disposed concentrically about a lens optical axis, comprising:

communication means for performing communication between said main body and said lens part;

detection means for detecting a change amount of a rotation of the ring member for driving said lens part;

camera control means, provided in the main body, for selecting and determining a response characteristic between an output of said detection means and a motion of the magnification lens, and for transmitting the selected response characteristic to said lens part;

lens control means, provided in said lens part, for receiving information concerning the selected response characteristic transmitted from said camera control means through said communication means, and for controlling the motion of said magnification lens in response to the operation of said ring member in accordance with the selected response characteristic; and

storing means, provided in said main body, for storing information of the response characteristic transmitted from said lens control means by said communication means, said storing means being arranged so that said main body holds the selected response characteristic throughout attaching/removing of said lens part and transmits the stored information of the response characteristic to said lens part attached to said main body throughout attaching/removing thereof.

27. (Previously Presented) An image pickup apparatus according to claim 26, wherein the plurality of characteristics of said camera control means includes a

first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to be constant and a second characteristic for controlling a motion speed of the magnification lens to be variable in accordance with a rotation speed of the ring member.

28. (Previously Presented) An image pickup apparatus according to claim 26, wherein the plurality of characteristics of said camera control means includes a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to become a first predetermined amount and a second characteristic for controlling a motion amount of the magnification lens per unit rotation of the ring member to become a second predetermined amount different from the first predetermined amount.

Claims 29 and 30 (Cancelled).

31. (Previously Presented) An image pickup apparatus according to claim 27, further comprising:
an operation switch capable of being operated upon by a user; and
change means for changing the characteristic of said camera control means in accordance with a state of said operation switch.

32. (Previously Presented) An image pickup apparatus according to claim 31, wherein said change means changes the characteristic of said camera control means in accordance with information of the characteristic of said camera control means set by a user.

33. (Previously Presented) An image pickup apparatus according to claim 32, wherein said change means changes the characteristic of said camera control means in accordance with a photographing state.

34. (Cancelled)

35. (Previously Presented) An image pickup apparatus according to claim 28, further comprising:
an operation switch capable of being operated upon by a user; and
change means for changing the characteristic of said camera control means in accordance with a state of said operation switch.

36. (Previously Presented) An image pickup apparatus according to claim 35, wherein said change means changes the characteristic of said camera control means in accordance with information of the characteristic of said control means set by a user.

37. (Previously Presented) An image pickup apparatus according to claim 36, wherein said change means changes the characteristic of said camera control means in accordance with a photographing state.

Claims 38 and 39 (Cancelled).

40. (Previously Presented) An image pickup apparatus according to claim 14, wherein the ring member is disposed concentrically about the lens part.

41. (Previously Presented) An image pickup apparatus according to claim 17, wherein the ring member is disposed concentrically about the lens part.

42. (Currently Amended) An image pickup apparatus comprising:
a ring member disposed concentrically about a lens optical axis of a lens unit;

detection means for detecting a change amount of rotation of said ring member;

control means for performing motion/stop control of at least a magnification lens group along the optical axis in accordance with a detection result by said detection means; and

inhibition means for inhibiting said control means from ~~performing the motion/stop~~ starting the stop control ~~during for~~ during for a predetermined period when said detection

means detects a stop of rotation of the ring member, and for causing said control means said ring member to continue ~~movement~~ the motion control of said magnification lens group when said detection means detects rotation of said ring member during the ~~predetermined period~~ based on the detection of the rotation of the ring member.

43. (Original) An image pickup apparatus according to claim 42, wherein the lens unit is removably and exchangeably mounted on a main body of the image pickup apparatus.

44. (Currently Amended) An image pickup apparatus comprising:
a ring member disposed concentrically about a lens optical axis of a lens unit;

detection means for detecting a change amount of rotation of said ring member;

control means for ~~determining~~ controlling motion ~~direction and speed~~ of a magnification lens group in accordance with an output of said detection means ~~and performing to perform~~ motion ~~start/stop~~ start control of the magnification lens group along the optical axis; and

change means for changing a sensitivity of motion ~~start/stop~~ start control of said control means relative to a detection result of said detection means so that said control means does not ~~effect~~ start the motion ~~start/stop~~ start control until an amount of rotation of said ring member, corresponding to the sensitivity, is detected by said detection means.

45. (Original) An image pickup apparatus according to claim 44, wherein said lens group is removably and exchangeably mounted on a main body of the image pickup apparatus.

Claim 46 (Cancelled).

47. (Original) An image pickup apparatus according to claim 44, wherein said change means changes the motion speed of the magnification lens group relative to an output of said detection means.

48. (Previously Presented) An image pickup apparatus having a magnification lens group, comprising:

- a ring member disposed concentrically about a lens optical axis;
- detection means for detecting a change amount of a rotation of said ring member;
- lens control means for determining motion direction and a speed of the magnification lens group in accordance with an output from said detection means, and for performing motion start/stop control of the magnification lens group along the optical axis; and
- control means for controlling said lens control means so as to automatically set a sensitivity of the motion start/stop control of the magnification lens group relative to a detection result of said detection means in accordance with a photographing state.

49. (Original) An image pickup apparatus according to claim 48, wherein said lens group is removably and exchangeably mounted on a main body of the image pickup apparatus.

50. (Previously Presented) An image pickup apparatus according to claim 48, wherein said control means changes the motion speed of the magnification lens group relative to an output of said detection means.